

OVERVIEW

Participants use computer graphics tools and design processes (i.e., animation) to communicate, inform, analyze and/or illustrate a topic, idea, subject, or concept that focuses on one (1) or more of the following areas: science, technology, engineering, or mathematics (STEM); sound may accompany graphic images. Participants will find the current year's theme posted on the [TSA website](#) under Competitions/Themes and Problems for this information. A documentation portfolio with the STEM animation comprise the entry. Semifinalists make a presentation.

ELIGIBILITY

Three (3) teams per state may participate.

TIME LIMITS

PRELIMINARY ROUND

1. All components of the chapter's entry, must be finished, submitted, and accessible via the Internet by 11:59 p.m. EST on May 15th.
2. Entries received or changes made to submitted entries after this deadline will not be judged.
3. Email verification of each team's entry will be made by June 10th.
4. The animation is not to exceed three (3) minutes in length.
5. There will be a three (3)-point deduction for each fifteen (15) seconds, or fraction thereof, over the three (3)-minute length.
6. The animation time is calculated from the start of the first image or sound to the end of the last image or sound.

SEMIFINAL ROUND

1. Ten (10) minutes is allowed to present the animation to the judges.

LEAP

A team LEAP Response is required for this event.

ATTIRE

TSA competition attire is required.

PROCEDURE

PRE-CONFERENCE

1. Participants design and create a STEM animation video, portfolio, and the team LEAP Response.
2. Participants submit the entry by 11:59 p.m. EST on May 15th.
3. Submission information will be provided on the [TSA website](#) under Competition Updates.

PRELIMINARY ROUND

1. A list of twelve (12) semifinalists (in random order) will be posted on the first full day of conference.

SEMIFINAL ROUND

1. No more than two (2) representatives from each semifinalist team may report to the event area for the presentation at the time and place stated in the conference program.
2. Each semifinalist team explains its portfolio to the judges, discussing the purpose, value, research and design, and development process of its work.
3. The LEAP Response will be judged for semifinalist teams.
4. Ten (10) finalists will be announced during the conference awards ceremony.

REGULATIONS

PRELIMINARY ROUND

- A. The documentation portfolio must be saved as a single, multi-page PDF document with the pages presented in the following order:
 1. Title page with the event title, the conference city and state, the year, and the team ID number; one (1) page

2. Table of contents; pages as needed
 3. Purpose of animation; one (1) page
 4. Images of a hand-sketched storyboard that documents the flow and progression of the animation, with written notes; special effects, audio cues, dialogue, transitions, and scene duration should be incorporated into the storyboard; pages as needed
 5. Written description of what the animation illustrates or demonstrates; one (1) page
 6. List of references that includes sources for materials, copyrighted and otherwise; pages as needed; the term “Fair Use” and similar terms are not acceptable citations when creating the list of references.
 7. Permission letters for copyrighted material; pages as needed
 8. List of software and hardware used in the development of the animation; one (1) page
 9. Plan of Work log that indicates preparation for the event, as noted by date, task, time involved, team member responsible, and comments (see Forms Appendix); pages as needed
 10. A completed Student Copyright Checklist (see Forms Appendix); pages as needed
- B. The animation:
1. The video must be submitted in a common video format suitable for viewing with a VLC player, utilizing a Microsoft Windows operating system.
 2. The URL must point to the main page of the team’s entry. Entries that require a request for access be granted will not be judged.
 3. Each animation must advance automatically once it has been opened and started by judges.
 4. The animation is not to exceed three (3) minutes in length.
 5. There will be a three (3)-point deduction for each fifteen (15) seconds, or fraction thereof, over the three (3)-minute maximum length. For example: An animation that runs 37 seconds beyond the three (3)-minute limit will receive a deduction of nine (9) points.
 6. Sound may accompany the animation, but it is not required.
 7. All video footage, graphics, special effects, and audio clips must be originally created/filmed by the participants.
 8. Where applicable, all ideas, text, images, and sound from other sources must be cited.
 9. If copyrighted material is used, proper written permission must be included (see Student Copyright Checklist in Forms Appendix).
 10. Absolutely no purchased content may be used in any part of the animation. (Purchased content includes, but is not limited to, texture, models, and royalty free music.)
 11. A PDF of the team LEAP Response must be submitted with the event entry. The submission form will have a separate place to upload this response from the website URL and digital portfolio.

SEMIFINAL ROUND

- A. The presentation team may not exceed two (2) members.
- B. The LEAP Response:
 1. Teams document the leadership skills the team has developed and demonstrated while working on this event and on a non-competitive event leadership experience.
 2. Find the specific LEAP Response regulations in the LEAP Program section of this guide and on the [TSA website](#).

EVALUATION

PRELIMINARY ROUND

1. The quality of the portfolio and the animation

SEMIFINAL ROUND

1. The presentation and the content and quality of the LEAP Response

Refer to the official rating form for more information.

NOTE

Find information about STEM Animation on this website:
www.ncsu.edu/project/stemgaming/scivis.html

STEM INTEGRATION

This event has connections to the STEM areas of Science, Technology, Engineering, and Mathematics.

CAREERS RELATED TO THIS EVENT

This competition has connections to one (1) or more of the careers below:

- Computer animator
- Game designer
- Instructional technologist
- Software engineer

STEM ANIMATION

2020 & 2021 OFFICIAL RATING FORM

MIDDLE SCHOOL

Judges: Using minimal (1-4 points), adequate (5-8 points), or exemplary (9-10 points) performance levels as a guideline in the rating form, record the scores earned for the event criteria in the column spaces to the right. The X1 or X2 notation in the criteria column is a multiplier factor for determining the points earned. (Example: an “adequate” score of 7 for an X1 criterion = 7 points; an “adequate” score of 7 for an X2 criterion = 14 points.) A score of zero (0) is acceptable if the minimal performance for any criterion is not met.

Go/No Go Specifications

- Before judging the entry, ensure that the items below are present; indicate presence with a check mark in the box.
- If an item is missing, leave the box next to the item blank and place a check mark in the box labeled ENTRY NOT EVALUATED.
- If a check mark is placed in the ENTRY NOT EVALUATED box, the entry is not to be judged.

- Portfolio was submitted prior to conference and judged
- Animation was submitted prior to conference and judged
- No copyrighted music, graphics, or other components
- Completed LEAP Response
- ENTRY NOT EVALUATED

PORTFOLIO (30 points)				Record scores in the column spaces below.
CRITERIA	Minimal performance	Adequate performance	Exemplary performance	
	1-4 points	5-8 points	9-10 points	
Digital Portfolio See Regulation A (X1)	Portfolio is unorganized and/or missing three (3) or more components.	Portfolio includes most components and is generally organized.	All components of the portfolio are included, and content and organization are clearly evident.	
Purpose and description (X1)	The purpose and description of the animation idea are unclear.	The purpose and description of the animation are explained appropriately.	The purpose and description of the animation are clear and concisely written.	
Storyboard (X1)	The hand-sketched storyboard is sloppy, seems to have been thrown together after the creation of the animation, and/or it does not correlate with the animation.	The storyboard is drawn appropriately and largely correlates with the completed animation.	The storyboard is of exceptional aesthetic and artistic value and clearly correlates with the animation.	
PORTFOLIO SUBTOTAL (30 points)				

ANIMATION (50 points)				Record scores in the column spaces below.
CRITERIA	Minimal performance	Adequate performance	Exemplary performance	
	1-4 points	5-8 points	9-10 points	
Communication of animation (X1)	It is difficult to understand the idea being communicated; an illogical explanation is presented.	The idea is communicated, and thoughts are somewhat organized and/or concise.	The idea is communicated in an organized, clear, and concise manner.	
Creativity (X1)	The animation lacks creativity; no, or very few, design principles are integrated in the animation.	Some elements of creativity are expressed, and essential design principles are used somewhat effectively.	The animation exudes creativity; essential design principles and elements are integrated.	

ANIMATION (50 points) – continued				
Aesthetics and artisanship (X1)	Unorganized, sloppy work is evident; the animation seems to be an afterthought and/or thrown together.	An organized presentation of essential issues in a logical format is evident.	An exemplary use of layout and design principles to logically communicate important data is evident.	
Graphical representations (X1)	Graphical representations do not help to clarify the idea, or they are of little significance to the idea.	Graphical representations are appropriate and help supplement the idea by providing some clarity.	Graphical representations are of excellent quality and completely clarify the idea.	
Originality (X1)	The animation lacks imagination, originality, and artistic detail.	The animation is effective and innovative, conveying some depth.	The animation is inspiring, inventive, resourceful, and completely motivating.	
ANIMATION SUBTOTAL (50 points)				

<p>Rules violations (a deduction of 20% of the total possible points for the above sections) must be initialed by the judge, coordinator, and manager of the event. Record the deduction in the space to the right.</p> <p>Indicate the rule violated: _____</p>	
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TIME DEDUCTIONS	
A three (3)-point deduction will be incurred for each fifteen (15) seconds, or fraction thereof, over the three (3)-minute animation maximum length.	
TOTAL ANIMATION TIME	
NUMBER OF TIME INTERVAL DEDUCTIONS	
TOTAL TIME DEDUCTIONS	

Record scores in the column spaces below.

PRELIMINARY SUBTOTAL (80 points)

SEMIFINAL PRESENTATION (74 points)			
CRITERIA	Minimal performance	Adequate performance	Exemplary performance
	1-4 points	5-8 points	9-10 points
Organization (X1)	Participants seem unorganized and unprepared for the presentation; illogical explanation of the idea is presented.	Participants are generally prepared for the presentation; an explanation of idea is communicated and generally organized.	The presentation is logical, well organized, and easy to follow; the idea is communicated in an organized and concise manner.
Articulation (X1)	The presentation is full of illogical thoughts that lack clarity, and/or there is insufficient information provided describing the project.	The presentation is somewhat logical, easy to follow, and/or there is sufficient information provided describing the project.	The presentation is clear, concise, and there is ample information provided describing the project.

Record scores in the column spaces below.

SEMIFINAL PRESENTATION (74 points) – continued				
Delivery (X1)	The team is verbose and/or uncertain in its presentation; participants' posture, gestures, and lack of eye contact diminish the presentation.	The team is somewhat well-spoken and clear in its presentation; participants' posture, gestures, and eye contact are acceptable in the presentation.	The team is well-spoken and distinct in its presentation; participants' posture, gestures, and eye contact result in a polished, natural, and effective presentation.	
Knowledge (X2)	Participants seem to have little understanding of the concepts in their project.	Participants exhibit an understanding of the concepts in their project.	Participants show clear evidence of a thorough understanding of their project.	
Team participation (X1)	The majority of the delivery is made by one member of the team; the partner may be disengaged from the presentation.	Both team members generally are engaged in the process, though one member may take on more responsibility than the other.	Both team members are actively involved in the presentation and responses to any questions; there is shared responsibility between team members.	
LEAP Response (14 points; 10% of the total event points)	The team's efforts are not clearly communicated, lack detail, and are unconvincing; few, if any, attempts are made to identify and incorporate the SLC Practices.	The team's efforts are adequately communicated, include some detail, are clear, and are generally convincing; identification and incorporation of the SLC Practices are satisfactory.	The team's efforts are clearly communicated, fully-detailed, and convincing; identification and incorporation of the SLC Practices are excellent.	
SEMIFINAL PRESENTATION SUBTOTAL (74 points)				

Rules violations (a deduction of 20% of the total possible points for the above sections) must be initiated by the judge, coordinator, and manager of the event. Record the deduction in the space to the right.

Indicate the rule violated: _____

SEMIFINAL SUBTOTAL (74 points)

To arrive at the **TOTAL** score, add any subtotals and subtract rules violation points, as necessary. **TOTAL (154 points)**

Comments:

I certify these results to be true and accurate to the best of my knowledge.

JUDGE

Printed name: _____ Signature: _____

STEM ANIMATION

EVENT COORDINATOR INSTRUCTIONS

PERSONNEL

- A. Event coordinator
- B. Assistant for check-in, one (1)
- C. Judges:
 1. Preliminary round, two (2) or more
 2. Semifinal round, two (2) or more

MATERIALS

- A. Coordinator's packet, containing:
 1. Event guidelines, one (1) copy for the coordinator and each judge
 2. TSA Event Coordinator Report
 3. List of judges/assistants
 4. Stick-on labels for identifying entries
 5. Results envelope with coordinator forms
- B. Tables for entries
- C. One (1) computer with monitor as needed for judges
- D. One (1) extension cord and one (1) power strip as needed for judges
- E. Tables and chairs for event coordinator, judges, and participants

RESPONSIBILITIES

PRE-CONFERENCE/PRELIMINARY ROUND

1. National TSA will collect entries until 11:59 p.m. EST on May 15th and send out receipt confirmations to participants by June 10th. The results will be shared with the CRC manager, event coordinator, and assigned judges.
2. Review entries as they are submitted to the designated online storage utility.
3. Manage communication and pre-conference evaluation (at least two [2] or more judges should be recruited earlier in the year). Coordinate with the Judge Manager.

AT THE CONFERENCE

1. Attend the mandatory coordinator's meeting at the designated time and location.

2. Report to the CRC room and check the contents of the coordinator's packet.
3. Review the event guidelines and check to see that enough personnel have been scheduled.
4. Inspect the area(s) in which the event is being held for appropriate set-up, including room size, chairs, tables, outlets, etc. Notify the event manager of any potential problems.
5. At least one (1) hour before the evaluation of entries is to begin, meet with your judges and check-in personnel to review time limits, procedures, and regulations. If questions arise that cannot be answered, speak to the CRC event manager before the evaluation begins.

SEMIFINAL ROUND

1. Semifinalists report to the event area at the time and place stated in the conference program.
2. Each semifinalist team signs up for a time to present its animation.
3. During the presentation, semifinalist team representatives will explain their work and answer any questions the judges may ask.
4. Judges independently assess the twelve (12) semifinalist teams.
5. Decisions about rules violations must be discussed and verified with the judges, event coordinator, and CRC manager to determine either
 - To deduct twenty percent (20%) of the total possible points in this round or
 - To disqualify the entry

The event coordinator, judges and CRC manager must all initial either of the violations on the rating form.
6. Judges determine the ten (10) finalists and discuss and break any ties.
7. Submit the finalist results and all related forms in the results envelope to the CRC room.
8. If necessary, manage security and the removal of equipment and materials from the area.